

# **INDEX**

**MOLECULAR BIOLOGY**

**Volume 11, Numbers 1-6, 1977**



**MOLECULAR BIOLOGY**  
**Volume 11, Numbers 1-6, 1977**  
(A translation of Molekulyarnaya Biologiya)

### A

- Agol, V. I. - 927  
Aivazashvili, V. A. - 661  
Aizenberg, O. A. - 381  
Akhrem, A. A. - 423, 816  
Akimenko, N. M. - 230  
Andreeva, N. S. - 963  
Andrianov, V. T. - 423, 816  
Antipina, A. D. - 443  
Antonov, V. K. - 887, 891  
Arshinova, T. V. - 645  
Artyukh, R. I. - 313  
Atanasov, B. P. - 313, 410  
Azadova, N. B. - 53  
Azaryan, A. V. - 873  
Azizbekyan, R. R. - 698

### B

- Bachurin, S. O. - 323  
Baev, A. A. - 754, 764, 933  
Baev, A. S. - 896  
Bakaev, V. V. - 41, 223  
Bandrina, I. N. - 523  
Becker, M. - 387  
Belitsser, V. A. - 908, 944  
Belitsina, N. V. - 914  
Belozerskaya, N. A. - 134, 387  
Berezin, I. V. - 843  
Bespalova, I. A. - 36  
Bibilashvili, R. Sh. - 147, 157,  
    308, 455, 661  
Birshtein, T. M. - 290  
Blagoi, Yu. P. - 579  
Bogdanov, A. A. - 416  
Bogdanova, S. L. - 586  
Bogush, V. G. - 107, 698, 896  
Boikov, P. Ya. - 593  
Bol'shakova, T. N. - 466  
Borisov, Yu. M. - 683  
Borisova, O. F. - 351  
Borkhsenius, S. N. - 134  
Braga, É. A. - 827  
Braunshtein, A. E. - 947  
Bresler, S. E. - 263  
Brondz, B. D. - 191  
Bruskov, V. I. - 509  
Budovskii, É. I. - 93  
Buivid, V. A. - 863

### C

- Chanishvili, T. G. - 36  
Chenchik, A. A. - 308  
Cherdantseva, E. M. - 124  
Chihev, K. K. - 275  
Chupeeva, V. V. - 182  
Churikov, N. A. - 489

### D

- Danilevskaya, O. N. - 735  
Dashkevich, V. S. - 645  
Debabov, V. G. - 167, 504,  
    635, 785, 863  
Deev, V. A. - 754, 764  
Degtyarenko, V. I. - 394  
Demidkina, N. P. - 141  
Doscočil, I. - 690  
Doudelka, J. - 690  
Drachev, L. A. - 1059  
Drizlikh, G. I. - 191  
Drozdov-Tikhomirov, L. N.  
    - 653  
Dudareva, N. A. - 645  
Dudich, I. V. - 531  
D'yachenko, L. F. - 679  
Dymshits, G. M. - 405

### E

- Ebert, B. - 809  
Egorov, T. A. - 873  
Éngel'gardt, V. A. - 991  
Ershov, Yu. V. - 523  
Evdakov, V. P. - 443  
Evdokimov, Yu. M. - 29, 230,  
    387, 690  
Evgen'ev, M. B. - 110

### F

- Fedchuk, A. S. - 394  
Fesenko, E. E. - 116, 568, 574,  
    770  
Fet, V. Ya. - 405  
Fetisova, I. V. - 586

- Finkel'shtein, A. V. - 627  
Florent'ev, V. L. - 661  
Fonarev, A. B. - 73  
Fradkin, G. E. - 381

### G

- Gachechiladze, K. K. - 36  
Gadzhiev, A. M. - 669  
Gauze, G. G. - 99, 185, 337  
Gavrilov, V. Yu. - 80  
Gazaryan, K. G. - 776  
Gening, L. V. - 863  
Georgiev, G. P. - 223, 489,  
    978  
Gerasimova, T. I. - 1078  
Gershmanovich, V. N. - 466  
Gershenzon, S. M. - 984  
Ginatulin, A. A. - 683  
Ginatulina, L. K. - 683  
Ginodman, L. M. - 887, 891  
Gladchenko, G. O. - 579  
Glukhova, M. A. - 914  
Godzhaev, N. M. - 669  
Gofman, Yu. P. - 53  
Gol'dfarb, D. M. - 245  
Gol'dshtein, B. N. - 253  
Golubkov, V. I. - 703  
Gottikh, B. P. - 517, 833,  
    1043  
Gren, É. Ya. - 987  
Gudkov, A. T. - 922  
Gupalova, T. V. - 703  
Gurinovich, G. P. - 797  
Gurova, A. G. - 887, 891  
Gurskii, G. V. - 455  
Gushchin, B. V. - 53  
Gushchina, E. A. - 53  
Gus'kova, L. V. - 141  
Gvozdev, V. A. - 124, 1067,  
    1078  
Gyul'khandanyan, G. V. - 809

### I

- Il'in, Yu. V. - 489  
Il'ina, T. S. - 466  
Iontova, I. M. - 703

Irlina, I. S. - 134  
Ivanov, V. I. - 319, 359

## K

Kabanov, V. A. - 443  
Kadykov, V. A. - 690  
Kalyaeva, É. S. - 735  
Karapetyan, A. T. - 635  
Karataev, G. I. - 896  
Kaulen, A. D. - 1059  
Kazakova, T. B. - 790  
Kharitonenkova, I. G. - 330  
Khesin, R. B. - 1033  
Khmel', I. A. - 586  
Khomenko, S. A. - 579  
Khristova, M. L. - 330  
Khulordava, K. G. - 640  
Kir'yanova, E. A. - 550  
Kiselev, L. L. - 991  
Klyachko, N. L. - 672  
Knorre, D. G. - 1001  
Kochubeev, G. A. - 797  
Kogan, G. L. - 1067, 1078  
Kolesnichenko, T. G. - 703  
Kolesnikov, V. A. - 550  
Kondrat'eva, N. O. - 710  
Kononenko, A. A. - 721, 835  
Kopel'man, R. N. - 53  
Korneeva, G. A. - 286  
Korovnikov, K. A. - 903  
Kosaganov, Yu. N. - 640  
Kotusov, V. V. - 517  
Kozlov, Yu. I. - 167, 504, 785,  
863  
Kraevskii, A. A. - 517, 1043  
Kretova, A. F. - 36  
Krot, V. I. - 423  
Krylov, V. N. - 635  
Kryuchkov, V. P. - 235  
Kukhanova, M. K. - 517, 1043  
Kulaeva, O. N. - 672  
Kul'guskin, V. V. - 474  
Kullyev, P. - 99  
Kusnetsova, E. D. - 776  
Kuznetsov, A. N. - 809

## L

Lando, D. Yu. - 423, 816  
Larionov, V. L. - 185  
Lazurkin, Yu. S. - 640, 1007  
Losev, A. P. - 797  
Lukashev, E. P. - 835  
Lyapunova, E. A. - 683  
Lystsov, V. N. - 235  
Lyubarskii, A. L. - 568, 574

## M

Magradze, N. M. - 245  
Makarov, V. L. - 176, 710  
Maksimov, E. E. - 625  
Malenkov, A. G. - 881  
Malenkov, G. G. - 268  
Malikova, L. G. - 302  
Mantefel', V. M. - 523  
Manyakov, V. F. - 908  
Markovich, D. S. - 253, 555,  
821  
Mashko, S. V. - 863  
Mazin, A. L. - 365  
Mazo, M. A. - 80  
Mednikov, B. M. - 216  
Mekhanik, M. L. - 873  
Mel'nikov, A. A. - 41  
Mel'nikova, M. P. - 790  
Merkulova, N. A. - 134  
Metakovskii, E. V. - 124  
Minaev, V. E. - 107, 785  
Minasyan, K. A. - 268  
Minchenkova, L. E. - 319, 359  
Misharin, A. Yu. - 531  
Mitin, Yu. V. - 625  
Mitrofanov, V. G. - 99  
Modyanova, E. A. - 881  
Molnar, Ya. - 351  
Monastyrskaya, G. S. - 93  
Mustafaev, M. I. - 443

## N

Naidenova, N. M. - 504, 785  
Naki, A. - 843  
Naroditskaya, V. A. - 635  
Neifakh, S. A. - 185  
Nesterova, M. V. - 550  
Nikandrova, L. R. - 141  
Nikolaeva, L. V. - 517  
Noks, P. P. - 721, 835  
Nosikov, V. V. - 827  
Novikov, I. A. - 398  
Novoselov, A. N. - 679

## O

Ogievetskaya, M. M. - 59  
Orlov, N. Ya. - 116, 574  
Orlov, V. M. - 171  
Osika, V. D. - 41  
Osterman, L. A. - 182, 539  
Ottesen, B. V. - 903

## P

Permogorov, V. I. - 107, 698,  
785, 896  
Petrova, A. N. - 286  
Poletaev, A. I. - 176, 710  
Polivtsev, O. F. - 29, 690  
Polonskii, Yu. S. - 504  
Poltev, V. I. - 509  
Polukarova, L. G. - 489  
Polyanin, V. P. - 586  
Polyanovskii, O. L. - 827  
Popov, E. M. - 1  
Popov, L. S. - 216  
Pospelov, V. A. - 605  
Postnikova, G. B. - 410  
Potapov, A. P. - 416  
Poverennyi, A. M. - 640  
Prangishvili, D. A. - 147, 157  
Prokov'eva-Bel'govskaya, A. A.  
- 1018  
Pyatigorskaya, T. L. - 29, 387,  
690

## R

Ratner, V. L. - 574, 770  
Rebentish, B. A. - 635  
Reznikova, M. M. - 881  
Romanov, G. A. - 727  
Rozovskaya, T. A. - 455  
Rozovskii, Ya. M. - 1067, 1078  
Rubin, A. B. - 721, 835  
Rusina, O. Yu. - 466  
Ruuge, É. K. - 330, 496

## S

Saburova, E. A. - 253  
Sadykov, Yu. Kh. - 410  
Salganik, R. I. - 645  
Sal'nikova, N. E. - 517  
Salyanov, V. I. - 29, 230  
Samarina, O. P. - 351  
Samoilenko, I. I. - 381  
Semin, Yu. A. - 640  
Serenkova, T. I. - 344  
Sergeev, P. V. - 66  
Severin, E. S. - 550  
Shchelkina, A. K. - 359  
Shevchenko, N. A. - 593  
Shilov, A. A. - 110  
Shimanovskii, N. L. - 66  
Shugalii, A. V. - 73  
Sivolap, Yu. M. - 679  
Skulachev, V. P. - 1059  
Skurida, G. I. - 653  
Skvortsov, A. M. - 290  
Smirnov, A. N. - 171

Smirnov, V. B. - 698  
Soifer, V. N. - 85  
Solonin, A. S. - 489  
Solov'eva, L. A. - 344  
Sorokin, V. A. - 579  
Spirin, A. S. - 914, 1026  
Stepanyants, A. U. - 66  
Stolyarova, G. S. - 297  
Strel'tsov, S. A. - 455  
Stroganov, L. B. - 275  
Strongin, A. Ya. - 863  
Subchinskii, V. K. - 496  
Sukhareva, B. S. - 302  
Sukhorukov, B. I. - 398  
Sverdlov, E. D. - 93, 790  
Sverdlova, P. S. - 182  
Sveshnikov, P. G. - 710  
Svetlikova, S. B. - 605

T

Tal', E. K. - 167  
Taran, Yu. A. - 275  
Tarantul, V. Z. - 776  
Tarusova, N. B. - 455  
Tikhonenko, A. S. - 36  
Tikhonov, A. N. - 496  
Timofeev, V. P. - 531

Timofeeva, M. Ya. - 344  
Titov, Yu. B. - 85  
Toai, Ch. D. - 323  
Todorov, I. N. - 73  
Tomarev, S. I. - 337  
Torchinskii, Y. M. - 873  
Totolyan, A. A. - 703  
Tushmalova, N. A. - 141  
Tyaglov, B. V. - 107, 620, 785

V

Vainshtein, B. K. - 963  
Valeev, V. A. - 579  
Vanyushin, B. F. - 141, 727  
Varetskaya, T. V. - 908  
Varfolomeev, S. D. - 323, 430,  
612, 843  
Varshavskii, A. Ya. - 41, 223  
Varshavskii, Ya. M. - 29, 171,  
230, 387, 690  
Vazina, A. A. - 669  
Venediktov, P. S. - 835  
Venkstern, T. V. - 286, 754,  
764, 933  
Vol'kenshtein, M. V. - 176,  
313, 319, 410, 531, 710, 974  
Vorob'ev, V. I. - 134, 605

Vorob'eva, I. P. - 586  
Vorontsov, N. N. - 683

Y

Yakhno, M. A. - 53  
Yakovleva, L. A. - 672  
Yamskova, V. P. - 881  
Yurovitskaya, N. V. - 466

Z

Zaboikina, T. N. - 776  
Zakharenko, V. I. - 863  
Zakstel'skaya, L. Ya. - 53  
Zamchuk, L. A. - 245  
Zarudnaya, M. I. - 640  
Zavriev, S. K. - 319  
Zelenin, A. V. - 523, 550  
Zenin, S. V. - 620  
Zen'kevich, É. I. - 797  
Zhdanov, V. M. - 53  
Zhulina, E. B. - 290  
Zhuze, A. L. - 29  
Zirver, D. - 387  
Zlochevskii, M. L. - 167  
Zlokazova, I. V. - 66  
Zograf, Yu. N. - 504



## TABLES OF CONTENTS

### MOLECULAR BIOLOGY

Volume 11, Numbers 1-6, 1977

(A translation of Molekulyarnaya Biologiya)

Volume 11, Number 1, Part 1      January-February, 1977

Engl./Russ.

Theoretical Study of Enzyme-Substrate Interactions - E. M. Popov . . . . .	1	5
Compact Form of DNA in Solution. IX. Characteristics of the Circular Dichroism Spectra of Compact DNA Particles Formed in Polyethylene Glycol-Containing Water-Salt Solutions in the Presence of Distamycin A - Yu. M. Evdokimov, V. I. Salyanov, T. L. Pyatigorskaya, O. F. Polivtsev, A. L. Zhuze, and Ya. M. Varshavskii . . . . .	29	42
Electron-Microscope Study of the Antigen-Antibody Complex, for the Fine Differentiation of the Protein Constituents of the Structure of the <u>coli-Shigella</u> Bacteriophages - I. A. Bespalova, K. K. Gachechiladze, A. F. Kretova, T. G. Chanishvili, and A. S. Tikhonenko . . . . .	36	50
Structure of Chromosomal Deoxyribonucleoproteins. VIII. Isolation and Investigation of Chromatin Subunits - V. V. Bakaev, A. A. Mel'nikov, V. D. Osika, and A. Ya. Varshavskii . . . . .	41	55
Integration of Genomes of Two Infectious Viruses by Mouse Cells - V. M. Zhdanov, N. B. Azadova, R. N. Kopel'man, M. A. Yakhno, L. Ya. Zakstel'skaya, B. V. Gushchin, Yu. P. Gofman, and E. A. Gushchina . . . . .	52	69
Determination of Rate of Protein Evolution on the Basis of Amino Acid Composition. I. Rate of Evolution of Actins - M. M. Ogievetskaya . . . . .	58	74
Investigation of the Interaction of X-Ray Contrast Media with Human Serum Albumin by Means of Fluorescent Labels and NMR - P. V. Sergeev, N. L. Shimanovskii, I. V. Zlokazova, and A. U. Stepanyants . . . . .	65	82
Features of the Primary Structure and Radiosensitivity of DNA Molecules - A. B. Fonarev, A. V. Shagalii, and I. N. Todorov . . . . .	72	92
Mathematical Investigation of the Kinetics of the Reassociation of Randomly Fragmented DNA - V. Yu. Gavrillov and M. A. Mazo . . . . .	79	101
Differences in the Inhibition of Cell Division and DNA Synthesis by Ultraviolet Irradiation in <u>Escherichia coli</u> K12 uvr <sup>+</sup> and uvr A6 and Effect of Hydroxyurea on DNA Synthesis in Irradiated Cells - Yu. B. Titov and V. N. Soifer . . . . .	84	107
Strategy for the Determination of the Sequences in Oligo- and Polynucleotides Based on the Determination of the Number of Bases in Specific Derivatives - E. D. Sverdlov, G. S. Monastyrskaya, and É. I. Budovskii . . . . .	92	116

Volume 11, Number 1, Part 2      January-February, 1977

Isolation and Several Properties of the R-DNA Polymerase from Unfertilized <u>Bombyx</u> <u>mori</u> Eggs - V. G. Mitrofanov, P. Kullyev, and G. G. Gauze . . . . .	99	124
Contribution of the Scattering of Light during the Melting of Phages T7 and S <sub>d</sub> - V. I. Permogorov, B. V. Tyaglov, V. G. Bogush, and V. E. Minaev . . . . .	107	134
Repeated DNA Nucleotide Sequences and the Problem of the Homologous Conjugation of Chromosomes - M. B. Evgen'ev and A. A. Shilov . . . . .	110	139
Investigation of the Kinetics of the Prelumirrhodopsin-Lumirrhodopsin Transition in the Visual Pigments of Vertebrates - E. E. Fesenko and N. Ya. Orlov . . . . .	116	147

Action of Ecdysterone on Surface Membrane Glycoproteins of <u>Drosophila melanogaster</u> Cells in Culture — E. V. Metakovskii, E. M. Cherdantseva, and V. A. Gvozdev . . . . .	124	158
Possible Repeated Replication of Part of the Nuclear DNA of <u>Tetrahymena</u> during a Single S-Phase — S. N. Borkhsenius, N. A. Belozerskaya, N. A. Merkulova, L. S. Irlina, and V. I. Vorob'ev . . . . .	134	171
Changes in DNA Methylation Level of Rat Brain during Development of a Conditioned Reflex — B. F. Vanyushin, N. A. Tushmalova, L. V. Gus'kova, N. P. Demidkina, and L. R. Nikandrova . . . . .	141	181
Two-Component Ribonucleotidyl Transferase from <u>E. Coli</u> . I. Isolation and Purification — D. A. Prangishvili and R. Sh. Bibilashvili . . . . .	147	189
Two-Component Ribonucleotidyl Transferase of <u>E. Coli</u> . II. Enzymatic Properties — D. A. Prangishvili and R. Sh. Bibilashvili . . . . .	157	203
Production of a Biologically Active Complex Consisting of DNA and Protein A — a Product of Gene 3 of Phage f1 — M. L. Zlochevskii, Yu. I. Kozlov, E. K. Tal', and V. G. Debabov . . . . .	167	217
Ionization Potentials of the Nitrogenous Bases of the Nucleic Acids and Some of Their Analogs — V. M. Orlov, A. N. Smirnov, and Ya. M. Varshavskii . . . . .	171	222
Circular Dichroism of DNA Complexes with Dyes. I. Theoretical Description of the Chromophore-Chromophore Interaction of the Ligands — V. L. Makarov, A. I. Poletaev, and M. V. Vol'kenshtain . . . . .	176	228
A Nonphenolic Method of Preparing tRNA — L. A. Osterman, P. S. Sverdlova, and V. V. Chupeeva . . . . .	182	237
Isolation of DNA from Yeasts Grown in an Osmotically Balanced Medium in the Presence of 2-Desoxy-D-glucose — V. L. Larionov, G. G. Gauze, and S. A. Neifakh . . . . .	185	242

Volume 11, Number 2, Part 1      March-April, 1977

Cellular Bases of Immunological Recognition. Antigen-Binding Receptors of the T Lymphocytes — B. D. Brondz and G. I. Drizlikh . . . . .	191	253
Comparison of Shark, <u>Protopterus</u> , and Perch DNA Pyrimidine Sequences — L. S. Popov and B. M. Mednikov . . . . .	216	286
Structure of Chromosomal Deoxyribonucleoproteins. IX. Heterogeneity of Chromatin Subunits in vitro and Location of Histone H1 — V. V. Bakaev, A. Ya. Varshavskii, and G. P. Georgiev . . . . .	223	294
The Compact Form of DNA in Solution. X. Characteristics of the Circular Dichroism Spectra of the Compact Particles of DNA Formed in Water-Salt Solutions Containing Polyethylene Glycol — Yu. M. Evdokimov, V. I. Salyanov, N. M. Akimenko, and Ya. M. Varshavskii . . . . .	230	303
Kinetic Method of Determining the Sequence of Purine and Pyrimidine Blocks in Circular Nucleic Acids — V. P. Kryuchkov and V. N. Lystsov . . . . .	235	310
Immunogenic DNA of <u>Shigella sonnei</u> Bacteriophage — L. A. Zamchuk, N. M. Magradze, and D. M. Gol'dfarb . . . . .	245	323
Investigation of the pH Dependence of the Structural and Functional Properties of Lactate Dehydrogenase ( $M_4$ ). The Indirect Cooperativeness in Lactate Dehydrogenase — E. A. Saburova, D. S. Markovich, and B. N. Gol'dshtein . . . . .	253	332
Quantitative Relationships in the Theory of Active Transport — S. E. Bresler . . . . .	263	345
Transition of DNA from the B to the A Form in Aqueous Solutions of Nonelectrolytes — G. G. Malenkov and K. A. Minasyan . . . . .	268	352

Volume 11, Number 2, Part 2      March-April, 1977

Kinetics of the Order-Disorder Transition in a System of Two Interacting Macromolecules (Computer Simulation) — Yu. A. Taran, K. K. Chipev, and L. B. Stroganov . . . . .	275	361
---	-----	-----

Nucleotide Composition and Digestion by Nucleases of RNA Isolated from Muscle		
Amylose Isomerase — G. A. Korneeva, T. V. Venkstern, and A. N. Petrova . . . . .	286	374
Conformational Transitions in Adsorbed Macromolecules with Secondary Structure		
— A. M. Skvortsov, E. B. Zhulina, and T. M. Birshtein . . . . .	290	380
Complexes of DNA with Lysozyme — G. S. Stolyarova . . . . .	297	389
Substrate Specificity of <i>E. coli</i> Glutamate Decarboxylase — B. S. Sukhareva and L. G. Malikova . . . . .	302	394
Methylation of <i>E. coli</i> RNA Polymerase with Dimethyl Sulfate — A. A. Chenchik and R. Sh. Bibilashvili . . . . .	308	403
Investigation of the Conformational Properties of Sperm Whale Myoglobin, Modified by a Spin Label on the Histidine Residues — R. I. Artyukh, B. P. Atanasov, and M. V. Vol'kenshtein . . . . .	313	410
Conformational Transition of DNA within the B Family as Revealed by Anisotropy Circular Dichroism — S. K. Zavriev, M. V. Volkenshtein, V. I. Ivanov, and L. E. Minchenkova . . . . .	319	418
Autocatalytic Enzymatic Reactions — S. D. Varfolomeev, S. O. Bachurin, and Ch. D. Toai . . . . .	323	423
Investigation of the Structure of Mixoviruses with Spin Probes. I. Thermostability of the Lipid Membrane of the Influenza Virus and the Sendai Virus		
— I. G. Kharitonenkov, M. L. Khristova, and É. K. Ruuge . . . . .	330	432
Simple Method for the Isolation of Mitochondrial DNA from Animal Tissues		
— S. I. Tomarev and G. G. Gauze . . . . .	337	440
Characteristics of Various Classes of Low-Molecular-Weight RNAs		
— M. Ya. Timofeeva, I. A. Solov'eva, and T. I. Serenkova . . . . .	344	449
Nuclear Ribonucleoproteins Containing Messenger RNA. 12. Study of the Secondary Structure of the Pre-mRNA in Nuclear Ribonucleoprotein Particles		
by Fluorescence Methods — O. F. Borisova, Ya. Molnar, and O. P. Samarina . . . . .	351	457
Effect of the Temperature on the Parameters of the DNA Double Helix in Solutions		
— A. K. Shchelkina, L. E. Minchenkova, and V. I. Ivanov . . . . .	359	466

## Volume 11, Number 3, Part 1     May-June, 1977

Hydroxyapatite Thin-Layer Chromatography of Nucleic Acids — A. L. Mazin. . . . .	365	477
Stabilization and Repair of Metabolic Breaks in DNA Chains Resulting from an Imbalance between Protein and DNA Synthesis — G. E. Fradkin, O. A. Aizenberg, and I. I. Samoilenko. . . . .	381	498
Compact Form of DNA in Solution. XI. Melting of Compact Form of DNA Formed in Aqueous Salt Solutions Containing Polyethylene Glycol		
— Yu. M. Evdokimov, T. L. Pyatigorskaya, N. A. Belozerskaya, Ya. M. Varshavskii, M. Becker, and D. Zirver . . . . .	387	507
Proteolytic Mechanism of the Deproteinization of Influenza Virus by Plasma Membranes — V. I. Degtyarenko and A. S. Fedchuk. . . . .	394	516
Investigation of the Role of Water in the Thermal Instability of DNA — I. A. Novikov and B. I. Sukhorukov. . . . .	398	521
A Protein Factor from the Regenerating Rat Liver that Destabilizes the Secondary Structure of DNA — G. M. Dymshits and V. Ya. Fet. . . . .	405	531
Study of Electron Transfer in Hemoproteins. II. pH Dependence of the Rate of Reduction of Ferricytochrome C by Oxymyoglobin — B. P. Atanasov, G. B. Postnikova, Yu. Kh. Sadykov, and M. V. Vol'kenshtein . . . . .	410	537
Study of Compact Structure of Small Subparticle of <i>E. coli</i> Ribosomes and RNA by Methods of Fluorescent Spectroscopy and High-Speed Sedimentation		
— A. P. Potapov and A. A. Bogdanov. . . . .	416	545
Investigation of the Melting of Nucleoproteins. II. Melting of Irreversible DNA-Protein Complexes — A. A. Akhrem, D. Yu. Lando, V. I. Krot, and V. T. Andrianov. . . . .	423	555

Kinetics of Reactions in Multienzyme Systems. I. Steady-State Processes in Two-Enzyme Systems. Linear Multienzyme Sequences — S. D. Varfolomeev . . . . .	430	564
Cooperative Bonding of Serum Albumin by Quaternized Poly-4-Vinylpyridines and Structure of the Complexes Formed — V. A. Kabanov, V. P. Evdakov, M. I. Mustafaev, and A. D. Antipina . . . . .	443	582

## Volume 11, Number 3, Part 2 May-June, 1977

Introduction of a Fluorescent Label at the 3'-OH End of DNA and the 3'-OH End of Growing RNA Chain — T. A. Rozovskaya, R. Sh. Bibilashvili, N. B. Tarusova, G. V. Gurskii, and S. A. Strel'tsov . . . . .	455	598
Suppression of the Inducible Synthesis of Enzymes in an <i>Escherichia coli</i> K12 Mutant with a Deleted ptsH Gene — V. N. Gershmanovich, T. S. Il'ina, O. Yu. Rusina, N. V. Yurovitskaya, and T. N. Bol'shakova . . . . .	466	611
Nuclear Ribonucleoprotein Particles Containing Messenger RNA. 12. Study of the Dissociation and Reconstruction of 30S Particles — V. V. Kul'guskin . . . . .	474	620
Selection and Certain Properties of Recombinant Clones of $\lambda$ Phage, Containing Genes of <i>Drosophila melanogaster</i> — Yu. V. Il'in, N. A. Churikov, A. S. Solonin, L. G. Polukarova, and G. P. Georgiev . . . . .	489	637
Structure of Higher Plant Chloroplast Membranes as Studied by Paramagnetic Probes — É. K. Ruuge, V. K. Subchinskii, and A. N. Tikhonov . . . . .	496	646
Effect of Proteins Bound to Single-Stranded DNA on the Synthesis of RNA and Poly(A). III. The Protein Product of Phage f1 Gene 5 — Yu. S. Polonskii, N. M. Naidenova, Yu. I. Kozlov, Yu. N. Zografi, and V. G. Debabov . . . . .	504	656
Molecular Mechanisms of Spontaneous Transversions and Transitions — V. I. Poltev and V. I. Bruskov . . . . .	509	661
Investigation of the Enzymatic Reaction Catalyzed by <i>E. coli</i> Ribosomes — V. V. Kotusov, M. K. Kukhanova, N. E. Sal'nikova, L. V. Nikolaeva, A. A. Kraevskii, and B. P. Gottikh . . . . .	517	671
Electron Microscopic Investigation of Chromatin in Hepatocyte Nuclei <i>in situ</i> during the First Hours after Partial Hepatectomy — V. M. Mantefel', Yu. V. Ershov, I. N. Bandrina, and A. V. Zelenin . . . . .	523	677
Measurement of the Time of Rotational Correlation of Macromolecules by the ESR Method in the Case of Covalently Bound Spin Label — I. V. Dudich, V. P. Timofeev, M. V. Vol'kenshtein, and A. Yu. Misharin . . . . .	531	685
Nomograms for Determining the Sedimentation Constants of Nucleic Acids by Centrifuging in a Sucrose Concentration Gradient on Spinco Ultracentrifuges — L. A. Osterman . . . . .	539	694
Influence of Histone Kinase, Phosphorylating Lysine-Rich Histone Fractions, Normal State and after Partial Hepatectomy — E. A. Kir'yanova, V. A. Kolesnikov, M. V. Nesterova, E. S. Severin, and A. V. Zelenin . . . . .	550	706

## Volume 11, Number 4, Part 1 July-August, 1977

Some Aspects of the Structure and Function of NAD-Dependent Dehydrogenases — D. S. Markovich . . . . .	555	717
Molecular Mechanisms of Generation of the Receptor Potential by the Photoreceptor. I. Light-Induced Changes in the Permeability of Artificial Lipid Membranes Modified with Fragments of Photoreceptor Membranes — E. E. Fesenko and A. L. Lyubarskii . . . . .	568	734
Molecular Mechanisms of Generation of the Receptor Potential by the Photoreceptor. II. Identification of the Conformational Transition of Rhodopsin Responsible for the Front of the Photoresponse of an Artificial Lipid Membrane Modified with Fragments of the Outer Segment of the Rod — E. E. Fesenko, N. Ya. Orlov, V. L. Ratner, and A. L. Lyubarskii . . . . .	574	741

Investigation of the Action of Magnesium Ions on the Thermal Denaturation of DNA —		
Yu. P. Blagoi, V. A. Sorokin, V. A. Valeev, S. A. Khomenko, and G. O. Gladchenko .....	579	748
Induction of the Synthesis of Colicin E1 in Cells of <u>Escherichia coli</u> with Various Contents of Plasmid DNA — I. A. Khmel', I. P. Vorob'eva, S. L. Bogdanova, V. P. Polyanin, and I. V. Fetisova .....	586	757
Topological Model of the Replication of Bacteriophage T 4 DNA — P. Ya. Boikov and N. A. Shevchenko .....	593	766
Electrophoretic Investigation of the Heterogeneity of Chromatin Subunits —		
V. A. Pospelov, S. B. Svetlikova, and V. I. Vorob'ev .....	605	781
Kinetics of Reactions in Multienzyme Systems. II. Non-Steady-State Kinetics. Pre-Steady-State and Relaxation Regimes in Two-Enzyme Systems and Linear Sequences — S. D. Varfolomeev .....	612	790
Nuclear Magnetic Resonance of Nucleotide Amides. Structure of the Intramolecular Complex Deoxyadenylyl(5'-3')deoxyadenylyl(5' → N)-L-Phenylalanine —		
B. V. Tyaglov and S. V. Zenin .....	620	801
Isolation of the Calcium-Binding Domain of Carp Parvalbumin — E. E. Maksimov and Yu. V. Mitin .....	625	807
Electrostatic Interactions of Charged Groups in an Aqueous Medium and Their Effect on the Formation of Polypeptide Chain Secondary Structure — A. V. Finkel'shtein ..	627	811
Restriction of DNA of New Lambdoid Bacteriophages by the Specific Endonuclease Eco RI — V. N. Krylov, B. A. Rebentish, V. G. Debabov, A. T. Karapetyan and V. A. Naroditskaya .....	635	820
Use of a $\beta$ -Alanine—Formaldehyde Reaction Product for the Kinetic Determination of Defects in DNA Secondary Structure — K. G. Khulordava, Yu. N. Kosaganov, M. I. Zarudnaya, Yu. S. Lazurkin, Yu. A. Semin, and A. M. Poverennyi .....	640	826

## Volume 11, Number 4, Part 2 July-August, 1977

Study of the Properties of Replicating DNA in Regenerating Rat Liver Isolated by Phenol Fractionation — V. S. Dashkevich, N. A. Dudareva, T. V. Arshinova, and R. I. Salganik .....	645	833
Mathematical Model of the Synthesis and Secretion of Tryptophan by <u>E. coli</u> — L. N. Drozdov-Tikhomirov and G. I. Skurida .....	653	843
ATP Analogs in the RNA Polymerase Reaction — V. A. Aivazashvili, R. Sh. Bibilashvili, and V. L. Florent'ev .....	661	854
Small-Angle Diffuse Scattering of X Rays by Thin Muscle Filaments — A. M. Gadzhiev, A. A. Vazina, and N. M. Godzhaev .....	669	864
Action of 6-Benzylaminopurine on the Incorporation of [ <sup>14</sup> C]Leucine into Protein in a Cell-Free System from Isolated Pumpkin Cotyledons — L. A. Yakovleva, N. L. Klyachko, and O. N. Kulaeva .....	672	868
Some Features of the Molecular Structure of Plant Genomes — Yu. M. Sivolap, L. F. D'yachenko, and A. N. Novoselov .....	679	877
Investigation of the Reassociation Kinetics of DNA from Mole Lemmings ( <u>Ellobius</u> ) with Different Chromosomal Forms in Relation to Chromosomal Rearrangements during Evolution — A. A. Ginatulin, L. K. Ginatulina, Yu. M. Borisov, E. A. Lyapunova, and N. N. Vorontsov .....	683	883
Compact Form of DNA in Solution. XII. Compaction of Double-Stranded Polyribonucleotides in Presence of Polyethylene Glycol — Yu. M. Evdokimov, T. L. Pyatigorskaya, V. A. Kadykov, O. F. Polivtsev, L. Doscočil, J. Doudelka, and Ya. M. Varshavskii .....	690	891
Physicochemical Properties of some <u>Bacillus thuringiensis</u> Phages — V. G. Bogush, V. B. Smirnov, B. A. Rebentish, V. I. Permogorov, and R. R. Azizbekyan .....	698	901

Isolation and Characterization of the Plasmid Determining Multiple Antibiotic Resistance in Strains of Group A Streptococci - V. I. Golubkov, T. V. Gupalova, I. M. Iontova, T. G. Kolesnichenko, and A. A. Totolyan . . . . .	703	909
Circular Dichroism of DNA-Dye Complexes. II. Anisotropy of Circular Dichroism Long-Wave Effect and Structure of Complex - A. I. Poletaev, V. L. Makarov, P. G. Sveshnikov, N. O. Kondrat'eva, and M. V. Vol'kenshtein . . . . .	710	917
Spectral Position of the Basic Absorption Band of the Pigment Complex P870 and Kinetics of Photoinduced Oxidoreductions in the Reaction Centers and Chromatophores of Purple Bacteria at Various Temperatures and Extensive Hydration of the Preparations - P. P. Noks, A. A. Kononenko, and A. B. Rubin . . . . .	721	933
Comparative Analysis of Renaturation Kinetics of Newly Synthesized and Total Eukaryotic DNA as a Method for Showing Selective DNA Synthesis in the Genome - G. A. Romanov and B. F. Vanyushin. . . . .	727	941

## Volume 11, Number 5, Part 1 September-October, 1977

Fertility Factor of <i>Escherichia coli</i> K12 and Its Participation in Mobilization of Bacterial Chromosome - É. S. Kalyaeva and O. N. Danilevskaya . . . . .	735	957
Comparative Study of tRNA-Methylases of Tumoral and Normal Tissues. I. Spectrum of Methylases of Kidney and Carcinoma RA - V. A. Deev, T. V. Venkstern, and A. A. Baev . . . . .	754	981
Comparative Study of tRNA-Methylases of Tumoral and Normal Tissues. II. Positional Specificity of Kidney and Carcinoma RA Methylases - V. A. Deev, T. V. Venkstern, and A. A. Baev . . . . .	764	994
Molecular Mechanisms of Receptor Potential Generation by Photoreceptor. III. Study of Conformational Transition Responsible for Trailing Edge of Photoresponse of Artificial Lipid Membrane Modified by Fragments of Outer Segment of Rod - E. E. Fesenko and V. L. Ratner . . . . .	770	1002
Isolation and Characterization of Two Transcribed Families of Repeated Sequences from Pigeon Genome - K. G. Gazaryan, E. D. Kusnetsova, V. Z. Tarantul, and T. N. Zabolikina . . . . .	776	1010
Effect of Protein Product of Gene 5 of Phage f1 on Thermal Denaturation of Synthetic Polynucleotides - B. V. Tyaglov, N. M. Naidenova, Yu. I. Kozlov, V. E. Minaev, V. G. Debabov, and V. I. Permogorov . . . . .	785	1022
Isolation and Characterization of DNA Fragments Bound to Proteins of Mitochondrial Membranes - T. B. Kazakova, M. P. Mel'nikova and E. D. Sverdlov . . . . .	790	1029
Investigation of Energetic Interaction between Protochlorophyll and Chlorophyll in Mixed Associates as a Function of Chlorophyll Concentration - É. I. Zen'kevich, G. A. Kochubeev, A. P. Losev, and G. P. Gurinovich . . . . .	797	1039
Investigation of the Rotational Mobility and Intermolecular Interactions of Serum Albumin by the Spin-Probe Method - A. N. Kuznetsov, G. V. Gyul'khandanyan, and B. Ebert . . . . .	809	1057
Investigation of the Melting of Nucleoproteins. III. Causes and Conditions for the Appearance of Multiphase Melting Curves of DNA-Protein Complexes - A. A. Akhrem, D. Yu. Lando, and V. T. Andrianov . . . . .	816	1065
Possible Nature of the Negative Cooperativity in D-Glyceraldehyde 3-Phosphate Dehydrogenase - D. S. Markovich . . . . .	821	1073

## Volume 11, Number 5, Part 2 September-October, 1977

Use of Actinomycin D and Distamycin for Limitation of Action of Restriction Endonucleases and for Mapping DNA - V. V. Nosikov, É. A. Braga, and O. L. Polyanovskii . . . . .	827	1079
--	-----	------

Possible Role of Macromolecular Components in Functioning of Photosynthetic Reaction Centers of Purple Bacteria — P. P. Noks, E. P. Lukashev, A. A. Kononenko, P. S. Venediktov, and A. B. Rubin . . . . .	835	1090
Kinetics of Reactions in Multienzyme Systems. III. Electron Transport — S. D. Varfolomeev, A. Naki, and I. V. Berezin . . . . .	843	1100
Distribution of DNA Sequences Recognized by Specific Endonucleases — S. V. Mashko, Yu. I. Kozlov, L. V. Gening, A. Ya. Strongin, B. A. Rebentish, V. A. Buiivid, V. I. Zakharenko, and V. G. Debabov . . . . .	863	1124
Photooxidation of Aspartate Transaminase from Chicken Heart Cytosol — A. V. Azaryan, T. A. Egorov, M. L. Mekhanik, and Y. M. Torchinskii . . . . .	873	1137
Highly Active Tissue-Specific Adhesion Factors from Rat Liver and Lung — V. P. Yamskova, E. A. Modyanova, M. M. Rezaikova and A. G. Malenkov . . . . .	881	1147
Equilibrium Kinetics of $\alpha$ -Chymotryptic Hydrolysis. II. Comparison of Ester and Amide Substrates — A. G. Gurova, L. M. Ginodman, and V. K. Antonov . . . . .	887	1155
Equilibrium Kinetics of $\alpha$ -Chymotryptic Hydrolysis. III. Rate Constants of Individual Stages and Thermodynamic Parameters at Different pH Values — V. K. Antonov, L. M. Ginodman, and A. G. Gurova . . . . .	891	1160
Construction of Partial Denaturation Maps for DNA with Random Base Sequence — V. G. Bogush, G. I. Karataev, A. S. Baev, and V. I. Permogorov . . . . .	896	1167
Nomogram for Determination of Size of Protein Molecules and Approximate Evaluation of Molecular Weights of Proteins — B. V. Ottesen and K. A. Korovnikov . . . . .	903	1176
Electron-Microscopic Investigation of the Self-Assembly of Fibrin — V. F. Manyakov, T. V. Varetskaya, and V. A. Belitser . . . . .	908	1182
Translocation in Ribosomes Induced by Elongation Factor G without GTP Dissociation. Study with the Aid of a Solid-Phase Translation System in Columns — M. A. Glukhova, N. V. Belitsina, and A. S. Spirin . . . . .	914	1190
Role of the N-Terminal Sequence (1-26) in the Dimerization of Protein L7 in Solution — A. T. Gudkov . . . . .	922	1201

Volume 11, Number 6, Part 1      November-December, 1977

Some Problems of the Molecular Biology of Picornaviruses — V. I. Agol . . . . .	927	1213
Transfer Ribonucleic Acids. Structuro-Functional Aspects — A. A. Baev and T. V. Venkstern . . . . .	933	1220
Oxidative Phosphorylation: Discovery, Early Investigations, New Approaches — V. A. Belitser . . . . .	944	1234
Milestones in the Study of the Functions, Structure, and Catalytic Mechanism of Transaminases — A. E. Braunshtein . . . . .	947	1238
Investigations of the Atomic and Molecular Structure of Biological Objects in the Soviet Union — B. K. Vainshtein and N. S. Andreeva . . . . .	963	1258
Conformational Theory of Polymers and Biopolymers — M. V. Vol'kenshtain . . . . .	974	1269
Investigations of the Structure of the Eukaryotic Genome in the Institute of Molecular Biology of the Academy of Sciences of the USSR — G. P. Georgiev . . . . .	978	1274
The Mutagenic Action of DNA — S. M. Gershenson . . . . .	984	1283
Regulation of Reproduction of RNA-Containing Phages — É. Ya. Gren . . . . .	987	1287
Problems of Genetic Enzymology — L. L. Kiselev and V. A. Engel'gardt . . . . .	991	1292
Affinity Modification of Proteins, Nucleic Acids, and Their Complexes — D. G. Knorre . . . . .	1001	1304

Volume 11, Number 6, Part 2      November-December, 1977

Molecular Melting of DNA and Effect of Fine Structure of Melting Curves — Yu. S. Lazurkin . . . . .	1007	1311
		1099

Heterochromatin and the Polymorphism of Chromosomes		
- A. A. Prokof'eva-Bel'govskaya . . . . .	1018	1325
Translocation Mechanism of the Ribosome - A. S. Spirin . . . . .	1026	1335
Initiation of RNA Synthesis - R. B. Khesin . . . . .	1033	1344
The Peptidyltransferase Center of the Ribosomes. Structure and Interrelationship with Other Functions of the Ribosomes - M. K. Kukhanova, A. A. Kraevskii, and B. P. Gottikh . . . . .	1043	1357
Time Characteristics of Bacteriorhodopsin as a Molecular Biological Current Generator - L. A. Drachev, A. D. Kaulen, and V. P. Skulachev . . . . .	1059	1377
Purification and Some Biochemical and Immunological Properties of Normal and Mutant Forms of 6-Phosphogluconate Dehydrogenase from <u>Drosophila</u> <u>melanogaster</u> - G. L. Kogan, Ya. M. Rozovskii, and V. A. Gvozdev . . . . .	1067	1388
Nature of Mutations Disrupting the Formation of 6-Phosphogluconate Dehydrogenase in <u>Drosophila melanogaster</u> and Their Suppression - V. A. Gvozdev, T. I. Gerasimova, G. L. Kogan, and Ya. M. Rozovskii . . . . .	1078	1402
<b>INDEX</b>		
Author Index, Volume 11, Numbers 1-6, 1977 . . . . .	1089	
Tables of Contents, Volume 11, Numbers 1-6, 1977 . . . . .	1093	

